

AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently Amended) An image signal processor for performing image processing on a first image signal representative of an entire image of a subject field captured by an imaging device to produce a plurality of second entire image signals, comprising:

a first memory for storing the first image signal;

a plurality of image processors for each performing image processing on the stored first image signal to produce the plurality of second image signals, wherein all second image signals are different from each other; and

a second memory for storing each of the plurality of second image signals produced,

wherein each of said plurality of image processors performs image processing on the first image signal where each image processor performs a different type of processing from every other image processor, the type of processing being selected from a group consisting of a change of brightness, a change of gradation change characteristics, a correction of a color temperature, a change of saturation, a change of a contour, and a change of a black level of the first image signal stored in said first memory,

wherein said plurality of image processors include types and parameters of the image processing such that at least one of the types and parameters of the image processing are different between said plurality of image processors, and

wherein said second memory is a non-volatile memory.

2. (Currently Amended) The image signal processor according to claim 1,

~~wherein the types of image processing performed by each of said plurality of image processors include at least one selected from a group consisting of a change of brightness, a change of gradation change characteristics, a correction of a color temperature, a change of~~

~~saturation, a change of a contour, a change of a compression ratio and a change of a black level of the first image signal stored in said first memory,~~

the parameters of image processing being of the at least one selected from the group,

said plurality of image processors performing the image processing of the at least one selected from the group on the first image signal stored in said first memory according to the parameters of image processing.

3. (Previously Presented) The image signal processor according to claim 1,
wherein each of said plurality of image processors corresponds to one of a plurality of display units which are provided for visualizing the images represented by the plurality of second image signals stored in said second memory,

each of said plurality of image processors processing, according to the parameters, the plurality of second image signals to be displayed on one of the plurality of display units which corresponds to said image processor.

4. (Previously Presented) The image signal processor according to claim 3 wherein the plurality of display units include a display and an image printer.

5. (Original) The image signal processor according to claim 2, further comprising a divider circuit for dividing the first image signal stored in said first memory into a highlight area and a shadow area,

each of said plurality of image processors performing the image processing in which at least one of the types and the parameters of the image processing differs between the highlight area and the shadow area.

6. (Original) The image signal processor according to claim 1 wherein said second memory is detachably connected to said image signal processor.

7. (Currently Amended) An image signal processor for performing image processing on a first image signal representative of an image of a subject field captured by an imaging device to produce a second image signal, comprising:

a first memory for storing therein the first image signal;

a plurality of image processors for each performing image processing, different from each other, on the stored first image signal to produce a plurality of third image signals different from each other;

a second memory for storing therein the third image signals produced; and

an image composer circuit for composing the third image signals to produce the second image signal,

wherein said plurality of image processors include types and parameters of the image processing such that at least one of the types and parameters of the image processing are different between said plurality of image processors and wherein each of said plurality of image processors performs image processing on the first image signal where each image processor performs a different type of processing from every other image processor, the type of processing being selected from a group consisting of a change of brightness, a change of gradation change characteristics, a correction of a color temperature, a change of saturation, a change of a contour, and a change of a black level of the first image signal stored in said first memory.

8. (Original) The image signal processor according to claim 7, further comprising a divider circuit for dividing the first image signal stored in said first memory into a highlight area and a shadow area,

wherein said plurality of image processors are provided correspondingly to the highlight area and the shadow area, each of said plurality of image processors performing the image processing for one of the highlight area and the shadow area to produce the third image signals.

9. (Currently Amended) A method of processing a first image signal representative of an entire image of a subject field captured by an imaging device to produce a plurality of second entire image signals, comprising the steps of:

storing the first image signal in a first memory;

performing a plurality of image processing on the stored first image signal, each of said plurality of image processing is performed according to parameters of image processing different from each other to produce the plurality of second image signals, wherein the parameters of image processing are selected from a group including gain, gradation control, luminance-chrominance, edge enhancement, and saturation emphasis; and

storing each of the produced plurality of second image signals in a second memory, wherein the second memory is a non-volatile memory.

10. (Currently Amended) Imaging apparatus comprising:

an imaging device for capturing an image of a subject field and producing a first image signal representative of the subject field;

a first memory for storing therein the first image signal;

a plurality of image processors for each performing image processing, different from each other, on the stored first image signal to produce ~~the~~ a plurality of second image signals different from each other;

a second memory for storing therein the second image signals produced; and

an image composer circuit for composing the second image signals to produce a third image signal,

said plurality of image processors including types and parameters of the image processing such that at least one of the types and parameters of the image processing are different between said plurality of image processors,

the types of image processing including at least one selected from a group consisting of a change of brightness, a change of gradation change characteristics, a correction of a color temperature, a change of saturation, a change of a contour, ~~a change of a compression ratio~~ and a change of a black level of the first image signal stored in said first memory,

the parameters of image processing being of the at least one selected from the group,

whereby each of said plurality of image processors performs a different type of ~~the~~ image processing from every other processor ~~of the at least one selected from the group~~ on the first

image signal stored in said first memory according to the parameters of image processing, said type of processing is selected from said group.

11. (Previously Presented) The image signal processor according to claim 1, wherein each of said plurality of image processors is configured to directly process the stored first image signal to produce the corresponding second image signal.

12. (Previously Presented) The method of processing according to claim 9, wherein each of said plurality of image processing directly receives processes the stored first image signal as input produce the corresponding second image signal.

13. (Previously Presented) The image signal processor according to claim 5, wherein a brightness of the highlight area is decreased or a brightness of the shadow area is increased or both.

14. (Currently Amended) An image processing method, comprising:
retrieving a first entire image data;
generating a plurality of second entire image data based on the first image data; and
storing each of the plurality of second image data into a memory,
performing a plurality of image processing on the first image data, each of said plurality of image processing is performed according to parameters of image processing different from each other to produce the plurality of second image data;

wherein a combination of imaging parameters and values applied to generate each second image data is unique for each second image data among the plurality of second image data, the parameters of image processing selected from a group including gain, gradation control, luminance-chrominance, edge enhancement, and saturation emphasis, and

wherein the memory is a non-volatile memory.

15. (Previously Presented) The image processing method of claim 14, wherein in the step of generating the plurality of second image data includes directly processing the first image data when generating each of the plurality of second image data.

16. (Cancelled)

17. (Currently Amended) The image processing method of claim ~~14~~16, wherein the step of generating the plurality of second image data includes particularizing at least one second image data for a display type.

18. (Previously Presented) The image processing method of claim 17, wherein the display type is one of a display or a printer.

19. (Previously Presented) The image processing method of claim 14, wherein the step of generating the plurality of second image data includes:

determining whether a brightness of the first image data is above a predetermined maximum or below a predetermined minimum; and

performing a black level correction on the first image data if the brightness of the first image data is determined to be above the predetermined maximum or below the predetermined minimum.

20. (Previously Presented) The image processing method of claim 19, wherein the step of determining whether the brightness of the first image data is above the predetermined maximum or below the predetermined minimum includes:

determining that the brightness of the first image data is below the predetermined minimum if the number of black level pixels of the first image data is greater than a first predetermined number; and

determining that the brightness of the first image data is above the predetermined maximum if the number of white level pixels of the first image data is greater than a second predetermined number.

21. (Previously Presented) The image processing method of claim 14, wherein the step of generating the plurality of second image data based on the first image data includes:

dividing the first image data into a plurality of areas, each area differing in brightness;
adjusting the brightness of the plurality of areas by a corresponding plurality of adjustment amounts; and
combining the adjusted plurality of areas.

22. (Previously Presented) The image processing method of claim 21, wherein
the step of dividing the first image includes dividing the first image area into a highlight area and a shadow area, and

the step of adjusting the brightness includes reducing the brightness of the highlight area and increasing the brightness of the shadow area.

23. (Previously Presented) The image processing method of claim 22, wherein the step of adjusting the brightness includes:

reducing an exposure value of the highlight area by a first fixed value; and
increasing an exposure value of the shadow area by a second fixed value; or both.

24. (Previously Presented) The image signal processor according to claim 3, further comprising:

a data compressor configured to compress the plurality of second image signals prior to being stored in the second memory,

wherein a compression ratio for compressing each of the plurality of second image signals is based on a type of the display unit designated for the second image.

25. (Previously Presented) The image signal processor according to claim 7, further comprising:

a data compressor configured to compress the second image signal,
wherein a compression ratio for compressing the second image signal is based on a type of the display unit designated for the second image signal.

26. (Previously Presented) The image processing method according to claim 9, further comprising:

determining a compression ratio for each of the plurality of second image signals based on a type of the display unit designated for the second image signal, and
compressing each of the plurality of second image signals prior storing in the second memory with the determined compression ratio.

27. (Previously Presented) The imaging apparatus according to claim 10, further comprising:

a data compressor configured to compress the third image signal,
wherein a compression ratio for compressing the third image signal is based on a type of the display unit designated for the third image signal.

28. (Previously Presented) The image processing method according to claim 14, further comprising:

determining a compression ratio for each of the plurality of second image data based on a type of the display unit designated for the second image data, and
compressing each of the plurality of second image data prior storing in the second memory with the determined compression ratio.

29. (Previously Presented) The image signal processor according to claim 7, wherein the second memory is non-volatile.

30. (Previously Presented) The image processing method according to claim 8, wherein the second memory is non-volatile.

31. (Previously Presented) The imaging apparatus according to claim 10, wherein the second memory is non-volatile.

32. (Previously Presented) The image signal processor according to claim 24, wherein the compression ratio for a display is higher than the compression ratio for a printer.

33. (Previously Presented) The image processor according to claim 1, wherein said first and second memories are different from each other.

34. (Previously Presented) The image processor according to claim 7, wherein said first and second memories are different from each other.

35. (Previously Presented) The method of processing according to claim 9, wherein said first and second memories are different from each other.

36. (Previously Presented) The imaging apparatus according to claim 10, wherein said first and second memories are different from each other.

37. (Previously Presented) The image processing method of claim 14, wherein said first and second memories are different from each other.

38. (Previously Presented) The image processor according to claim 7, wherein each of the plurality of image processors is configured to directly process the stored first image signal to produce the corresponding third image signal.

39. (Previously Presented) The imaging apparatus according to claim 10, wherein each of the plurality of image processors is configured to directly process the stored first image signal to produce the corresponding second image signal.

40. (Previously Presented) The image processor according to claim 1, wherein at least one of the plurality of image processors is configured to independently perform image processing on each color of the stored first image signal to produce the corresponding second image signal.

41. (Previously Presented) The image processor according to claim 7, wherein at least one of the plurality of image processors is configured to independently perform image processing on each color of the stored first image signal to produce the corresponding third image signal.

42. (Previously Presented) The method of processing according to claim 9, wherein in the step of performing image processing on the stored first image signal according to parameters of image processing different from each other to produce the plurality of second image signals comprises:

independently performing, for at least one set of parameters of image processing, image processing on each color of the stored first image signal to produce the corresponding second image signal.

43. (Previously Presented) The imaging apparatus according to claim 10, wherein at least one of the plurality of image processors is configured to independently perform image processing on each color of the stored first image signal to produce the corresponding second image signal.

44. (Previously Presented) The image processing method of claim 14, wherein in the step of generating the plurality of second image data comprises:

independently performing, for at least one combination of imaging parameters and values, image processing on each color of the first image data to generate the corresponding second image data.